DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division — Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: PEARL LAKE	Lake Area (ha):	25.09
Town: LISBON	Maximum depth (m):	6.5
County: Grafton	Mean depth (m):	2.9
River Basin: Connecticut	Volume (m³):	732000
Latitude: 44°12′00″N	Relative depth:	1.1
Longitude: 71°52'00" W	Shore configuration:	1.30
Elevation (ft): 1017	Areal water load (m/vr):	
Shore length (m): 2300	Flushing rate (yr ⁻¹):	7.60
Watershed area (ha): 1295.0	O Pretention coeff::	0.47
% watershed ponded: 0.0	O Lake type: natural	w∕dam

11 January 1989	6 July 1988
UROGLENOPSIS 75%	ANACYSTIS 75%
SYNURA 15%	SYNURA 10%
	685.0
	12.62
KERATELLA 66%	SPARSE - NO DOMINANT
SYNCHAETA 20%	
300	17
0	4
300	22
	Common
	5.4
10.1	2.1
	< 10
	UROGLENOPSIS 75% SYNURA 15% KERATELLA 66% SYNCHAETA 20% 300 0 300

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 4.7 Hypolimnion volume (m³): None

CHEMICAL:	Lake: PEARL LAKE Town: LISBON				
	11 Janua	ary 1989	6.	July 1988	
DEPTH (m)	2.0	4.0	2.5		5.0
pH (units)	7.0	6.8	7.4		7.2
A.N.C. (Alkalinity)	18.8	19.2	15.6		14.0
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDAHL NITROGEN	0.38	0.32			
TOTAL PHOSPHORUS	0.031	0.030	0.012		0.012
CONDUCTIVITY (D mhos/cm)	63.1	62.6	52.4		51.4
APPARENT COLOR (cpu)	26	25	16		18
MAGNESIUM			0.84		
CALCIUM			5.7		
SODIUM			1.6		
POTASSIUM			1.10		
CHLORIDE	< 2	< 2	< 2		< 2
SULFATE	8	8	7		7
TN : TP	12	11			
CALCITE SATURATION INDEX			2.0		

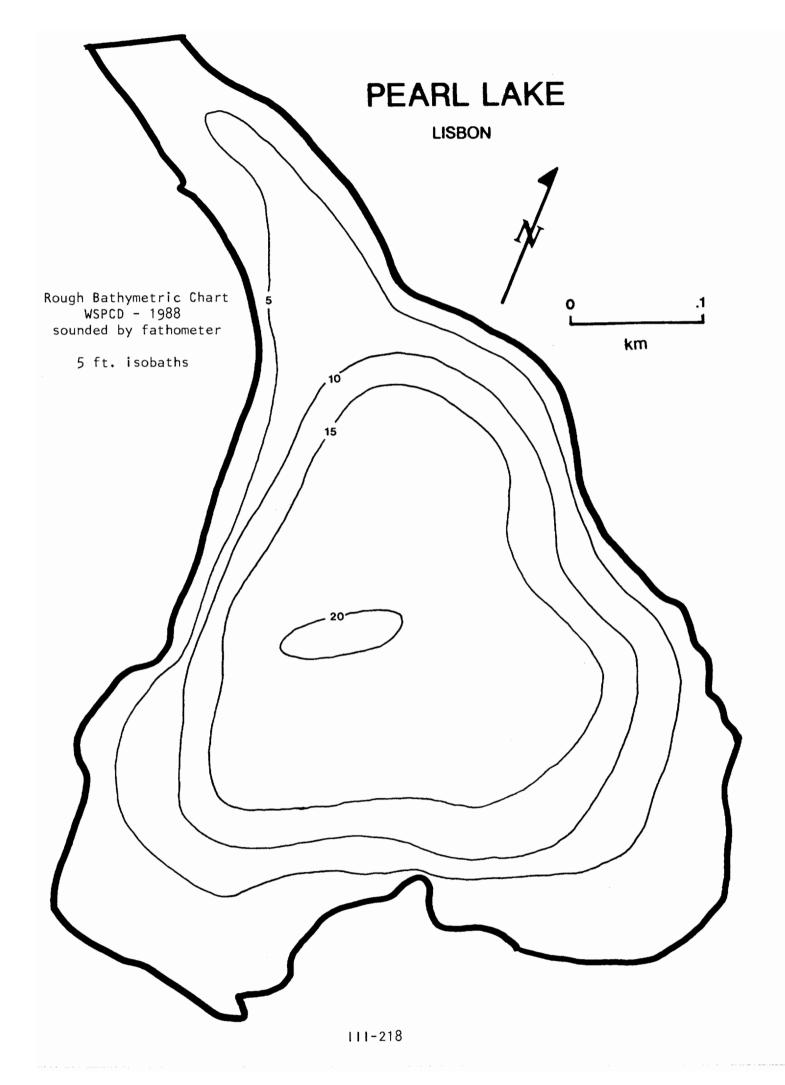
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1988

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	1	3	3	7	Meso.

COMMENTS:

- 1. Lots of big bass were observed; also small bass, pickerel, and sunfish (observed many fish 'blips' on the fathometer).
- 2. Green algae (65%) were the dominant class of whole-water phytoplankton and tiny green flagellates (60%) were the dominant genera.
- 3. Previously was the public water supply for the Town of Lisbon.



FIELD DATA SHEET

LAKE: PEARL LAKE

DATE: 07/06/88

TOWN: LISBON

WEATHER: HAZY, HOT, HUMID

l			
DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	24.1	8.8	103 %
1.0	22.7	8.8	99 %
2.0	20.1	9.2	101 %
3.0	19.1	9.1	98 %
4.0	18.2	9.0	95 %
5.0	15.0	11.4	112 %
6.0	12.4	2.1	19 %
1			

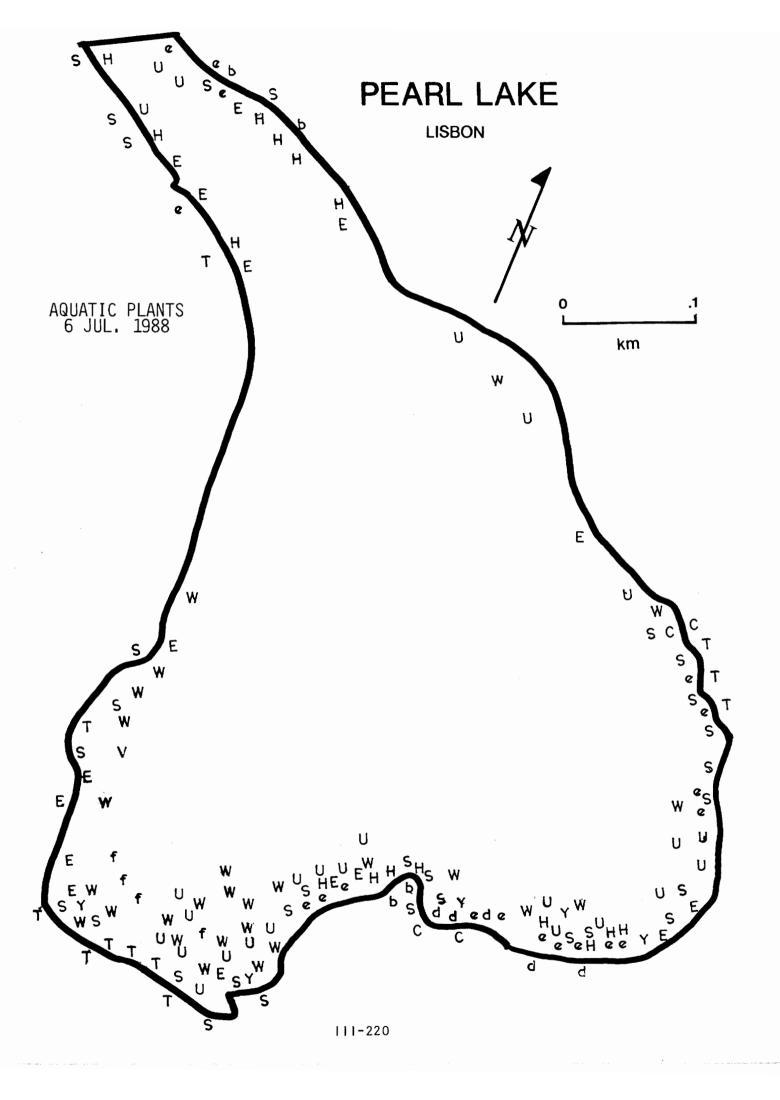
SECCHI DISK (m): 5.4

COMMENTS:

BOTTOM DEPTH (m): 6.5

TIME: 1220

*Dissolved oxygen values are in mg/L



AQUATIC PLANT SURVEY

LAKE: PEARL LAKE	TOWN: LISBON	DATE: 07/06/88

Key	PL	ABUNDANCE	
VEA	GENERIC	COMMON	ABONDANCE
d	Dulichium arundinaceum	Three-way sedge	Sparse
ь	Scirpus	Bulrush	Sparse
С	Carex	Sedge	Scattered
W	Potamogeton	Pandweed	Scattered
E	Eriocaulon septangulare	Pipewort	Common
T	Typha	Cattail	Sparse
е	Eleocharis	Spike rush	Sparse
S	Sparganium	Bur reed	Scattered
Н	Equisetum	Horsetail	Scattered
U	Utricularia	Bladderwort	Common
V	Vallisneria americana	Tape grass	Sparse
Υ	Nuphar	Yellow water lily	Sparse
f	Chlorophyceae	Filamentous green algae	Sparse

OVERALL ABUNDANCE: Common

GENERAL OBSERVATIONS:

- 1. Several baby loons were observed.
- 2. Plants were common to abundant in the southern end and sparse elsewhere, for an overall rating of 'common'.
- 3. Low growing vegetation was observed along the bottom where the bottom was visible (appeared to be vegetative portion of pipewort plants).